Seeing Stars

Renowned astronomer John Dobson brings his view of the universe to the Science Factory.

In a UO classroom, a slender old man with a white ponytail is giving students the key to the universe. Using the simplest of materials — plywood blocks, screws, thumbtacks, masonite, glass, a shower cap — the students will construct their own telescopes, strong enough to show them not just other planets, but also other galaxies. It will, however, require several days of work to put the pieces together. "I'm a very lazy person," John Dobson says, "so if there was an easier way to make a telescope, I might have noticed."

Dobson is many things, but lazy isn't one of them. Possessing a quicksilver wit and energy that belie his nearly 90 years on this planet, Dobson is one of history's greatest popularizers of science; his founding of the Sidewalk Astronomers of America and his invention of a simple, cheap, yet powerful telescope have brought the wonders of the universe to millions. And he's done it largely outside the scientific and academic establishments, traveling to cities all over the world, staying with friends and friends of friends, an itinerant opener of eyes and minds. Dobson is in Eugene this month to teach classes in telescope making and cosmology.

"People tell me I'm the original hippie," says Dobson, who grew up in Beijing but moved with his family to San Francisco in 1935. "In the mid-1930s, I lived on Ashbury above Haight Street and had long hair and a beard," which provoked surprise and even hostility. If people could get so upset over "this dead stuff on our heads," he reasoned, then all of society's attitudes were open to question. After graduating with a chemistry degree from UC-Berkeley, Dobson's search for answers led him in 1944 to join San Francisco's Ramakrishna Vedanta monastery. There, in the early 1950s, Dobson — a stargazer since childhood — decided to make a serious telescope, using a 12-inch piece of porthole glass he spied on a friend's table and grinding it into a mirror with sand. He pointed it at the moon, and was astonished by how much detail he could see. "It was like I was coming in for a landing," he says. His eventual design for an affordable Newtonian reflecting telescope — cobbled together from such materials as a plywood box, the cardboard cores of garden hose reels, and roof shingles — would later be named (to its inventor's disdain) the Dobsonian.

He started lending telescopes to kids who'd see him stargazing on the streets of San Francisco, and then teach them to make their own. Eventually these nocturnal absences led to his dismissal from the monastery. In 1968, Dobson co-founded the Sidewalk Astronomers, headquartered in a retired school bus that made hundreds of trips around California for star parties. Its two dozen chapters now include clubs in Sao Paulo, Liverpool, Moscow, and British Columbia.

Dobson's head isn't always in the clouds, galactic or terrestrial. The son of a zoologist, he learned early about earthly flora, fauna and phenomena. A stroll through Skinner Butte park becomes a joyful inventory of almost every plant and tree he passes; he asks the locals for help identifying the few he can't, as well as information about the area, such as the Willamette River's angle of descent. He's always asking questions, even when he knows the answers. "Why do the far mountains look bluer than the nearby ones? Because there's more sky between us and the distant ones." In the park, he spies a rose growing under a cherry tree. "Do you realize that they're the same family?" he asks, then launches into an explanation of the relationship between five-petal flowers and single-seed fruits. Dobson delights in pointing out such unobvious connections. His view of reality as a system of scientific processes meshes seamlessly with his Vedanta philosophy, which involves seeing beyond what Hindus call *maya* ("I like plain English," he says, "so I call it 'the mistake'") to what's really happening beyond our self-limited perceptions.

Because we view our immediate surroundings in misleading ways, such as assuming the earth is flat or the sun goes around the earth, Dobson encourages people to gaze upon other planets and galaxies — outside our "genetic programming" — to give us a broader perspective. A park ranger, spotting Dobson leading one of his frequent star parties in a national park, once asked him if he considered the sky part of the park. "No," Dobson replied, "the park is part of the sky." **EW**

John Dobson will give a free public talk about "What's Underneath the Universe" at 7 pm Friday, July 23 at the Science Factory museum. The event will include a star party and will feature telescopes made this month by 20 Eugene students who have been working with Dobson to construct their own personal telescopes.